

**AAR Manual of Standards and Recommended Practices**  
**Specifications for Tank Cars**

APPENDIX M

M-1002

pose, except that they may not be substituted for or used in place of required plate materials specified in DOT 179 for tank shells and heads, manway nozzles, or expansion domes.

**4.6.3** All steels defined by the specifications hereafter must be manufactured by the open hearth, electric furnace, or basic oxygen process. Bessemer steel is not acceptable.

<b>Steel plates, shapes, bars, sheet, and strip</b>	ASTM A36 Structural Steel <sup>d/</sup>
	ASTM A242 Structural Steel
	ASTM A283 Structural Plates, Grades A, B, C, D <sup>d/</sup>
	ASTM A455 Plates, Pressure Vessel (0.31 carbon max.)
	ASTM A529 Bars and Shapes
	ASTM A570 Structural Sheet and Strip, Grades 30, 33
	ASTM A572 Structural Steel, all grades, Type 2
	ASTM A575 Bars, Merchant Quality, AISI and M Grades 1008-1025, inclusive <sup>d/</sup>
	ASTM A576 Bars, Special Quality, AISI Grades 1008-1026, inclusive <sup>d/</sup>
	ASTM A612 Plates, Pressure Vessel
<b>Forgings</b>	CSA G40.21, Types W, WT, A, and AT
	ASTM A105 Steel
	ASTM A181 Steel, Classes 60 and 70
	ASTM A182 Alloy Steel
<b>Aluminum bars, rods, and shapes</b>	ASTM A350 Low Temperature Steel
	ASTM B211 Rolled Bars, Rods
	ASTM B221 Extruded Bars, Rod Shapes
<b>Nickel</b>	ASTM B308 Structural Shapes, Rolled or Extruded Alloy 6061-T6
	ASTM B160 Rod and Bar
<b>Steel pipe and tubes</b>	ASTM A53 Welded and Seamless Pipe
	ASTM A106 Seamless Pipe
	ASTM A161 Seamless Tubes
	ASTM A178 Welded Tubes
	ASTM A192 Seamless Tubes
	ASTM A512 Welded Mechanical Tubing, AISI and MT Grades 1010-1025, inclusive
	ASTM A513 Welded Mechanical Tubing, AISI and MT Grades 1008-1026, inclusive <sup>d/</sup>
	ASTM A519 Seamless Mechanical Tubing, AISI and MT Grades 1008-1026, inclusive
<b>Stainless steel pipe and tubes</b>	ASTM A269 Seamless and Welded Tubing <sup>d/</sup>
	ASTM A312 Seamless and Welded Pipe
	ASTM A511 Seamless Steel Mechanical Tubing <sup>d/</sup>